What is claimed:

1. A single coil, two operator controller for simultaneously actuating two spaced apart magnetically responsive operators, the controller comprising:

a bar extending between the spaced apart operators; and

a coil on the bar, between the operators for creating a magnetic field for moving the magnetically responsive operators.

2. A single coil, two operator controller for simultaneously actuating two spaced apart magnetically responsive operators, the controller comprising:

a sleeve, having first and second ends, generally surrounding each operator, in which the operator can move;

a plate generally adjacent the first end of each sleeve

a bar generally adjacent the second end of each sleeve; and

a coil on the bar, between the sleeves, for creating a magnetic field for moving the magnetically responsive operators in the sleeves.

3. The controller according to claim 2 wherein the second end of each sleeve is closed, and wherein the bar has a recess therein for receiving the closed second send of each sleeve.

4. The operator according to claim 2 wherein the coil comprises first and second winding sections connected in series and separated by a gap.

5. The operator according to claim 2 further comprising a return between the first and second winding sections, extending substantially between the plate and the bar.

6. The operator according to claim 3 wherein the return comprises in an U-shaped member, oriented so that the ends of the legs of the "U" are adjacent the plate, and the bottom of the "U" extends over the bar.

7. The operator according to claim 4 wherein the plate has cutouts for receiving the ends of the legs of the "U."

8. A gas valve comprising a valve body, and first and second valve members and corresponding valve seats, the valve members being movable between a closed position in which the valve member engages its respective seat to block the flow of gas through the valve, and an open position in which the valve member is

spaced from its respective seat to allow the flow of gas through the valve, each valve members having an associated magnetically responsive operator; a spring resiliently biasing the valve members to the closed position and a controller for operating the valve members, the controller comprising a sleeve having first and second ends in which each operator can move to move the valve member, a plate adjacent to, and extending between, the first ends of the sleeves, and a bar adjacent to, and extending between the second ends of the sleeves, and a coil on the bar between the sleeves, which when energized creates a magnetic field that moves the operators in the sleeves.

9. The gas valve according to claim 7 wherein the coil comprises first and second winding sections connected in series and separated by a gap.

10. The gas valve according to claim 8 further comprising a return between the first and second winding sections, extending substantially between the plate and the bar.

11. The gas valve according to claim 9 wherein the return comprises in an U-shaped member, oriented so that the ends of the legs of the "U" are adjacent the plate, and the bottom of the "U" extends over the bar.

12. The gas valve according to claim 10 wherein the plate has cutouts for receiving the ends of the legs of the "U."

13. The gas valve according to claim 8 further comprising a switch associated with the coil.

14. The gas valve according to claim 8 further comprising a rectifier associated with the coil.

15. The gas valve according to claim 8 wherein the coil is wound on a support, and further comprising a switch on the support.

16. The gas valve according to claim 8 further comprising a rectifier on the support.

17. A single coil split flux path electromagnetic two operator controller comprising:

a core element made of magnetic flux conducting material and having opposite first and second ends defining a length of the core element there between;

a single coil winding, the winding being wrapped around the core element along a portion of the length of the core and having first and second ends, the winding

being configured to magnetize said core element and create an electromagnet when energized by passing an electrical current through the winding, said electromagnet creating a magnetic field and an associated flux path when energized, the core being part of the flux path and the first and second ends of the core element being respective first and second poles of said electromagnet;

first and second operators made of magnetic flux conducting material, said operators each being movable between independent first and second positions and being biased so that when the electromagnet is not energized the operators are in their respective first positions;

a support member supporting the electromagnet so that the first and second poles of the electromagnet are in a spaced apart relation from the respective first and second operators and within the flux path of the electromagnet along with the first and second poles, the first and second operators being attracted to the respective first and second poles and moving from their respective first positions to their respective second positions when the electromagnet is sufficiently energized;

a base made of magnetic flux conducting materials, the base separating the first and second operators and being part of the flux path when the electromagnet is energized; and

a flux divider made of magnetic flux conducting material, the flux divider separating the winding into the primary and secondary windings, and thereby separating the flux path into respective primary and secondary flux paths, the flux divider extending to a location on the base between first and second operators, the primary flux path generally going from the first pole through the first operator through the base through the flux divider through the core within the primary winding and back to the first pole, the second flux path generally going from the core element within the secondary winding through the flux divider through the base through the second operator through the second pole and back to the core within the secondary winding, the primary winding being sized to generate sufficient flux to pull the first operator towards the first pole and into the first operator's second position when the electromagnet is energized, the second winding being sized to generate sufficient flux to pull the second operator towards the second pole and into the second operator's second position when the electromagnet is energized.

18. The controller of claim 1, wherein:

the single coil winding is wound on a bobbin, the bobbin having first and second ends defining a length of the bobbin there between and a hollow interior bore between the first and second ends, the interior bore being dimensioned to allow the core element to fit inside the interior bore, the winding covering a portion of the length of the bobbin and the core element being within the interior bore of the bobbin with the first and second core ends extending beyond the winding on the bobbin, the winding, bobbin and core element thereby forming the electromagnet when energized.

19. The controller of claim 17, wherein:

the bobbin has an integral switch, the switch being selectively adjustable between on and off positions, the switch is electrically connected to the winding and has connection members for electrically connecting the switch to an electric current source to energize the electromagnet, the switch separating the electric current source from the winding and allowing current to flow through the winding when in the on position and preventing current from flowing through the winding when in the off position.

20. The controller of claim 17, wherein:

the bobbin has an integral rectifier electrically connected to the winding and separating the winding from a current source, the rectifier having connection elements for electrically connecting to a current source to energize the electromagnet, the rectifier, when connected to an alternating current source, converting the alternating current to a direct current to thereby energize the electromagnet with direct current.

21. The controller of claim 17, wherein:

the core element has a cross-sectional shape perpendicular to the core length that is generally circular and the bobbin has a cross sectional shape perpendicular to the bobbin length that is generally circular.

22. The controller of claim 20, wherein:

the flux divider is generally U-shaped and is positioned around the generally circular cross-section of the bobbin so that the flux divider encircles approximately 180 degrees of the generally circular cross-section and extends to the base.

23. The controller of claim 16, wherein:

The supporting member is comprised of a pair of legs, the pair of legs being first and second legs, and extending to the respective first and second poles of the electromagnet, the first leg having a hollow interior dimensioned to allow the first

operator to fit inside the first leg and move from the first operator's first position to the first operator's second position while inside the first leg, and the second leg having a hollow interior dimensioned to allow the second operator to fit inside the second leg and move from the second operator's first position to the second operator's second position while inside the second leg.

24. The controller of claim 16, wherein:

the flux divider extends through the base and makes contact with the base when the electromagnet is energized.

25. A single coil controller with divided flux path comprising:

an electrically operated coil, the coil enclosing a portion of a magnetic flux conducting rod, the coil and rod thereby being inductively coupled and making an electromagnet when an electrical current is passing through the coil;

a first magnetic flux conducting plunger in a spaced apart relation from a first end of the rod, the first plunger being moveable between two positions and being biased to be in one of the two positions;

a second magnetic flux conducting plunger in a spaced apart relation from a second end of the rod, the second plunger being moveable between two positions and being biased to be in one of the two positions;

a magnet flux conducting divider having opposite sides and separating the coil into first and second windings, the divider being adjacent to the rod portion enclosed by the coil with the first and second windings being on opposite sides of the flux divider between the divider and the respective first and second rod ends;

a magnetic flux conducting base adjacent to the divider and separating the first and second plungers with the divider being between the first and second plungers, thereby inductively coupling the base, the divider, and the first and second plungers with the coil and rod when the electrical current is passed through the coil; and

the first winding being sized to cause the first plunger to move to the non-biased position when the electrical current is passing through the coil, the second winding being sized to cause the second plunger to move to the non-biased position when the electrical current is passing through the coil.

26. The controller of claim 24, wherein:

a bobbin surrounds a portion of the rod and the coil encloses a portion of the bobbin, the rod and coil being inductively coupled and making an electromagnet when the electrical current is passing through the coil.

27. The controller of claim 24, wherein:

a switch is electrically connected to the coil and separates the coil from the current source, the switch being selectively positionable between open and closed positions and having electrical connectors adapted to be connected to the current source, the switch preventing current from flowing through the coil when in the open position and allowing current to flow through the coil when in the closed position.

28. The controller of claim 24, wherein:

A rectifier is electrically connected to the coil and separates the coil from the current source, the rectifier having electrical connectors adapted to be connected to the current source and converting alternating current to direct current when connected to an alternating current source.

29. The controller of claim 24, wherein:

the first plunger is connected to a valve and when the first plunger is moved between the two positions, the valve opens and closed.

30. The controller of claim 28, wherein:

the second plunger is connected to a second valve and when the second plunger is moved between the two positions, the second valve opens and closes.

31. The controller of claim 29, wherein:

the divider has a closed end and an open end and is generally U-shaped and the base has at least one slot, the closed end being positioned around a portion of the rod and the open end extending through at least one slot in the base, the divider being in contact with the base when the electrical current is passing through the coil.

32. The controller of claim 24, wherein:

the divider passes through the base and is in contact with the base when the electrical current is passing through the coil.

33. A method of splitting the flux path of a single coil two operator controller to create two flux paths to control the two operators, the method consisting of:

providing a magnetic flux conducting core with laterally opposite first and second ends defining a lateral length there between;

enclosing a portion of the length of the core with an electrically operated coil, the coil comprised of an electrically conducting wire, the wire winding around a first section of the core and a second section of the core, the first and second sections being laterally spaced apart along the length of the core;

placing a magnetic flux conducting divider adjacent the core between the first and second sections of windings;

providing first and second magnetic flux conducting operators in a spaced apart relation from the respective first and second core ends, the first operator being moveable between two positions and being biased to be in one of the two positions, the second operator being moveable between two positions and being biased to be in one of the two positions; and

providing a magnetic flux conducting base, the base separating the first and second operators in a spaced apart relation with the divider adjacent the base between the first and second operators, the base, the first and second operators, the divider and the core being inductively coupled and causing the first and second operators to move from the respective biased positions to the respective non-biased positions when an electrical current is passed through the coil.

34. The method of claim 32, further comprising the step of:

providing a switch electrically connected to the coil and separating the coil from an electrical current source, the switch being selectively adjustable between on and off positions and having electrical connectors adapted to be connected to the electrical current source, the switch preventing current from flowing through the coil when in the off position and allowing current to flow through the coil when in the on position.

35. The method of claim 32, further comprising the step of:

providing a rectifier electrically connected to the coil and separating the coil from an electrical current source, the rectifier having electrical connectors adapted to be connected to the electrical current source and converting alternating current to direct current when connected to an alternating current source.

36. The method of claim 32, further comprising the step of:

sizing the first section of winding to provide sufficient flux to pull the first operator from the biased position to the non-biased position when an electrical current is passed through the coil; and

sizing the second section of winding to provide sufficient flux to pull the second operator from the biased position to the non-biased position when the electrical current is passing through the coil.